

Holistic Interventions Protocol for Interstitial Cystitis Symptom Control

A Case Study

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Interstitial cystitis (IC) is a disabling bladder disorder that leads patients on an endless journey in search of treatment options to control their painful symptoms. Although there are some medical treatments available, no one treatment is completely effective. The Neuman model provides the rationale for the use of holistic prevention interventions with IC patients. Holistic interventions can help IC patients to retain, attain, and maintain system stability. A case study of 1 IC patient, who successfully used holistic approaches to achieve system stability, is described. **KEY WORDS:** *holistic, interstitial cystitis, intervention, Neuman Holist Nurs Pract 2008;22(4):183–190*

Interstitial Cystitis (IC) is a chronic, debilitating, and inflammatory disorder that affects the bladder wall.¹ The incidence of IC is approximately 847 000 people in the United States, which is 1 in 321 or 0.31%. Of those diagnosed with IC, about 700 000 (90%) are women. To date there have been few epidemiological studies to identify more current estimates.^{2–4} However, IC experts believe there may be close to 25 to 30 million women affected simply because of the complexity, underestimation, and variability of diagnosis.² The incidence of IC is similar to that of Parkinson's disease, that is, approximately 1 in 272 or 0.37% or 1 million people in United States.⁵ Yet, few people are as aware of the condition of IC when compared with Parkinson's disease.

Interstitial cystitis is a chronic disease manifested by disabling pelvic, vaginal, and bladder pain, urinary urgency, frequency, and nocturia. Interstitial cystitis sufferers feel “chained” to their bathrooms, often urinating 30 to 40 times a day, sometimes every 10 to 15 minutes. Urinating even a drop is the only way to

get relief from the pain. Symptoms are “invisible” and frequently passed off as chronic urinary tract infections, pelvic inflammatory disease, chronic prostatitis, or endometriosis. For years IC was thought to be a “psychosomatic disorder,” where women were thought to exaggerate symptoms like was once felt with premenstrual syndrome.⁶ Many patients suffer for extended lengths of time because of inaccurate or lack of a diagnosis.⁷ As a result, IC patients become extremely frustrated and mistrust healthcare providers as they search for answers to their years of suffering.

PATHOLOGY AND ETIOLOGY

The primary hypothesis for this chronic condition suggests that there is a defect or weakness within the bladder wall, specifically the inner epithelial lining of the bladder or glycosaminoglycans (GAG).⁸ Normally, this lining protects the bladder wall from the toxic effects of the urine. Approximately 70% of IC patients are thought to have a defective GAG layer, which allows acidic urine to irritate the bladder wall, which in turn can cause bladder, pelvic, and suprapubic pain. Other hypotheses include autoimmune response, increase of histamine-producing cells in the bladder wall causing inflammation and engorgement of tissue,⁸ defective nerve fibers within the bladder, proteins in the urine, and infection.^{9–11}

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MAKING THE INTERSTITIAL CYSTITIS DIAGNOSIS

To confirm the diagnosis and differentiate IC from generalized cystitis, the urologist's workup would include urinalysis with culture, which typically reveals no bacteria (or nitrates) but can demonstrate moderate red blood cells and minimal white blood cells.¹¹

The potassium sensitivity test may also be done to detect problems with the bladder's protective lining (epithelium). The potassium sensitivity test is done by instilling sterile water and then potassium chloride into the bladder. If the patient feels pain and/or significant urinary urgency during the instillations, the test is considered positive, signifying that the bladder lining is defective.¹²

Cystoscopy with hydrodistention is a procedure done under anesthesia in the operating department, which allows the urologist to visualize the inside of the bladder. Cystoscopy may reveal erythematous areas to the bladder's surface epithelium, glomerulations (pinpoint hemorrhages), bleeding fissures, and/or scars. In 10% of IC patients, Hunner's ulcers or ulcerative patches surrounded by mucosal congestion (on the dome or lateral walls of the bladder) are present.¹¹ Glomerulations and/or Hunner's ulcers become apparent after hydrodistension because discreet areas of mucosal scarring rupture during the procedure. Bladder biopsies will often show inflammation without evidence of malignancy.

LITERATURE REVIEW

Medical treatment options

According to the literature on IC, the condition has no cure; medical treatments offer only symptom control. Urine cultures are negative, and patients may or may not respond to antibiotics.¹¹ Usually an array of oral medications are tried in attempts to provide the patient with symptom relief. These include pentosan polysulfate (Elmiron), which has been shown to actually repair the damaged lining of the bladder.¹¹ Tricyclic antidepressants block pain receptors and relax the bladder muscle. Antihistamines and nonsteroidal anti-inflammatory drugs, reduce the amount of histamine within the bladder wall thereby reducing inflammation.¹³ Antispasmodics and muscle relaxants allow the bladder to hold more urine. Phenazopyridine (Pyridium) is a urinary anesthetic that decreases bladder spasms and urinary urgency.¹⁴

Calcium glycerophosphate (Prelief), TUMS, and sodium bicarbonate have also been shown to be effective in reducing food-related IC flares.^{13,15}

Patients who do not respond to oral therapy may be given bladder instillations (intravesical therapy), where a variety of medications is instilled directly into the bladder. This can be done weekly in the urology office. One drug used along with hydrodistention is dimethyl sulfoxide.¹¹ Dimethyl sulfoxide passes into the bladder wall, reduces inflammation, and prevents muscle contractions that cause pain, frequency, and urgency. However, it takes 6 to 8 instillations over a 3- to 4-week period, for the patient to experience any relief. Heparin sodium is another solution for intravesical therapy, which is used for IC. Heparin is instilled directly into the bladder and has both anti-inflammatory and surface-protectant properties. It is thought that heparin mimics the bladder's mucous lining, temporarily "repairing" the GAG layer.¹⁶ The procedure cystoscopy/hydrodistention can also provide symptom relief for patients, as it increases the bladder stretching capacity.

Lifestyle treatment options

Because it is known that acidic foods, reduced fluid intake, smoking, "holding it," and certain hygienic practices can exacerbate IC Symptoms,^{10,13} making simple lifestyle changes might reduce symptoms. Patients should increase fluid intake to 6 to 8 glasses of water (8 oz) a day and eliminate acidic trigger foods such as citrus fruits, cranberries, grapes, chocolate, cheese, yogurt, tomatoes, spicy foods, yeast, liver, chemical additives, citric acid, sugar substitutes, coffee/tea, carbonated drinks, and alcoholic beverages.¹⁷ Patients should void on a regular basis and should not hold it. They should also void before and after sexual intercourse. Other recommendations include wearing cotton undergarments, wiping perineum from front to back, and avoiding douches, tight-fitting clothing, laundry detergents with excessive additives, heavily perfumed soaps, bubble baths, and hot tubs.¹⁰

Holistic treatment options

A few studies were found in the literature that examined herbs and supplements aimed at treating IC.^{6,16,18,19} Webster and Brennan⁶ found that a combination of multiple vitamins, calcium/magnesium supplements, and herbs reduced IC

symptoms in approximately 14% of the subjects studied. Whitmore¹⁹ found that the Chinese herbs cornus, garden rhubarb, Psoralea, and rehmannia, decreased pain after 4 weeks in 61% of the subjects studied ($N = 25$). In 3 months, an additional 22% of the subjects had a significant response. Another herbal therapy that has been shown to be beneficial to urinary tract and bladder health is the extract of pumpkin seeds (cucubita pepo).¹⁸ The most consistent research evidence is found for Gotu kola (*Centella asiatica*) and horsetail (*Equisetum arvense*).¹⁹ Gotu kola enhances the integrity of connective tissue by stimulating production of GAGs, which are essential components of the mucous layer in the bladder. Horsetail (*Equisetum arvense*) has astringent properties.¹⁸

Bladder training is a therapy that inhibits the urge to void by extending the interval between voidings. In 1 study, bladder training was successful in increasing the voiding interval by 15 to 30 minutes every 3 to 4 weeks. In addition, 15 (71%) of the 21 IC patients also noticed a decrease in nocturia, frequency, and urgency.²⁰ Intravaginal Theile massage for 6 weeks significantly improved symptoms in 9 of 10 IC patients.²¹

Moldwin²² noted that 76% of IC patients who used mind-body therapies verbalized improvement in urinary symptoms. Chaiken et al²³ combined relaxation audiotapes with pelvic floor exercises. Of the 42 patients in their study, 71% showed a significant increase in functional bladder capacity after 3 months of relaxation and pelvic floor exercises, and 98% had a significant decrease in the number of voidings per day.²³ Additional results of this same study²³ showed that music therapy improved the quality, depth, and length of sleep in a significant number of IC subjects.

The slow and steady stretch used in hatha yoga has been shown to relax pelvic floor muscles.²⁴ Although yoga is not a cure for IC, more than 90% of participants who took an 8-week course in yoga said that it was helpful in reducing their IC symptoms, including insomnia, mental, and emotional stress.²⁴ Both acupuncture and acupressure have been shown to diminish the pain and other negative side effects associated with IC. According to Sandifer,²⁵ acupressure applied to bladder meridians can restore energy flow within the bladder. In a study of 14 patients, Rapkin and Kames²⁶ found that 6 to 8 weeks of acupuncture reduced the pain of IC. Lyons²⁷ reported a case study of a 31-year-old woman whose IC symptoms were reduced with acupuncture to the

kidney and bladder meridians. The transcutaneous electrical nerve stimulation unit placed on the lower back or on the suprapubic region has been reported to reduce the pain of IC.²⁸ Carter and Weber²⁹ have used reflexology to relieve symptoms of the urinary tract.

THEORETICAL FRAMEWORK

The Neuman System's Model³⁰ supports the use of holistic interventions that promote system equilibrium. According to the model, when the flexible line of defense is no longer capable of protecting the patient's system against the disruptive forces of IC, intrapersonal, interpersonal, and extrapersonal stressors related to IC break through the patient's *normal range* or responses, known as the normal line of defense, causing IC symptoms to result. The major concern of nursing, according to the Neuman, is to help the patient attain, maintain, or retain system stability. This is done through primary prevention interventions that strengthen the flexible line of defense, and thus prevent stress and risk factors from entering the system. Secondary prevention interventions are used after a stressor has broken through the flexible line of defense and caused a negative reaction. Secondary prevention interventions focus on strengthening the internal line of resistance through the treatment of symptoms. Tertiary prevention interventions are used after system stability has been reconstituted through secondary prevention interventions and are aimed at conserving energy and supporting existing strengths.

Relaxation therapy and meditation are examples of primary prevention interventions for IC that can strengthen the patient's flexible line of defense preventing stressors from entering the system. Guided imagery, acupressure, and reflexology are examples of holistic IC interventions that can assist IC patients to eliminate distressing symptoms. Journaling and the lived experience interview are viewed as tertiary prevention interventions that help IC patients maintain a state of wellness.

THE HOLISTIC INTERSTITIAL CYSTITIS INTERVENTION PROTOCOL

As there is no cure for IC, even with the use of medical treatments and lifestyle changes, it seems that holistic therapies could be useful as they can help patients cope with their condition and promote unity and harmony of the mind, body, and spirit.

The condition of IC causes anxiety and is exacerbated by stress and anxiety. The condition of IC causes insomnia and is exacerbated by insomnia. Holistic interventions are effective in reversing anxiety and promoting sleep. Nurses are suitable healthcare providers to implement holistic interventions because nursing has traditionally had a holistic approach that is expressed in nursing models such as Betty Neuman's Systems Model.¹⁵ Because nurses see IC patients for an extended period of time in clinics and offices, they are particularly appropriate to implement a holistic plan. All this can be done in the clinic or office for no additional cost to the patient.

The purpose of this article is to suggest a protocol of holistic interventions for IC-symptom management. The development of the holistic IC protocol adds to nursing's body of knowledge on holistic nursing interventions. By using holistic interventions, nurses can play a significant role in reducing or eliminating the suffering of IC patients. The holistic interventions used are in complement to the medical plan, not in lieu of it. Mind-body therapies quiet the mind, take IC patients' mind off of their urgency symptoms, and relax the musculature of the bladder wall. Energy therapies unblock energy channels to the bladder. Spiritual interventions provide a sense of hope and impart meaning to their suffering.

Not all of the holistic therapies suggested in the literature are incorporated into the protocol. Those chosen were therapies that worked well together, were possible for the patient to implement herself, and were evidence based. The holistic IC-intervention protocol assumes continuation and compliance with conventional medical approaches, as the combination of approaches provides optimal patient results.

Consent

Collaboration with the patient's physician and other healthcare professionals in using holistic therapies to treat IC is essential. The physician must know which holistic therapies the nurse intends to use and how they will work in complement with conventional therapy. Ask the patient what holistic interventions have been tried to reduce IC symptoms. If the patient acknowledges any holistic interventions, explore the therapies used and their effectiveness. Next, ascertain whether the patient would like to learn additional holistic interventions to help cope with and reduce IC symptoms. If affirmative, inform the patient that

several therapies will be suggested and demonstrated. Inform the patient that by accepting responsibility to use holistic interventions, an active role on her part in treatment will be assumed. Instruct the patient that more than 1 holistic intervention may need to be used to relieve the symptoms, and that there is no specific order as to which holistic intervention is used first or last.

Centering

Before utilizing the holistic IC-intervention protocol at the initial and all subsequent clinic/office visits, the nurse should first center him or herself with healing intention. To center one's self, the nurse should close his or her eyes, think only of the present moment, and take several deep breaths focusing on exhalation and diaphragmatic breathing.

Lived experience interview

The first holistic intervention to use with IC patients is the lived experience interview.³¹ The lived experience interview technique provides a comfortable place for the patient to express experiences in living with the condition of IC. To conduct such an interview, the interviewer uses an unstructured open-ended technique. The interview starts with a simple query such as "Tell me what it is like to live with interstitial cystitis." From there the patient does most of the talking taking the conversation "wherever." The interviewer should not direct the interview to a specific topic, and occasionally utter encouraging phrases such as "go on," "tell me more," etc. The effect of such an interview validates the patient's condition and establishes a therapeutic healing relationship.

Journaling

Instruct the patient to keep a journal of the experience of using holistic interventions to cope with and reduce the symptoms of IC.³² Emphasize that journaling is a map of self-discovery and insight; a reflection, not a diary. Before journaling, the patient should stretch and relax and clear the mind of any distractions. In each entry the patient should write a personal reflection of what motivated the use of a particular holistic intervention and how effective it was. Acknowledge what was learned and the accompanying emotions while using the holistic intervention. Articulate the effect of the intervention, both positive and negative.

Progressive muscle relaxation

Progressive muscle relaxation (PMR) can be used to relax bladder musculature. A relaxed bladder will not perceive every drop of urine as an urgent situation. Progressive muscle relaxation involves the intentional tightening and releasing of every muscle in the body, one by one. When performing this technique, the patient should pay special attention to tensing and relaxing the abdominal and pelvic muscles. In the shorthand PMR that follows, whole muscle groups are simultaneously stimulated and then relaxed.³³ Each muscle group is tensed for 7 seconds and relaxed from 20 to 30 seconds.

1. Curl both fists, tightening biceps and forearms (Charles Atlas pose). Hold. Relax.
2. Wrinkle up forehead. At the same time, press your head as far back as possible, roll it clockwise in a complete circle, reverse.
3. Now wrinkle up the muscles of your face like a walnut: frowning, eyes squinted, lips pursed, tongue pressing the roof of the mouth, and shoulders hunched. Hold. Relax.
4. Arch the back as you take a deep breath into the chest. Hold. Relax.
5. Take a deep breath, pressing out the stomach and pelvis. Hold. Relax.
6. Pull feet and toes back toward face, tightening shins, Hold. Relax.
7. Curl toes, simultaneously tightening calves, thigh, and buttocks. Hold. Relax.

Guided imagery

To distract, relax, and replace the negative images of IC symptoms with positive images of healing, the following script could be used. Close your eyes and begin with three cleansing breaths, in a darkened, quiet room. Imagine . . . it is a warm sunny day and you are at your favorite beach, lying on your back in the warm white sand, soaking in the warm sun and listening to the waves crashing onto the shore. Imagine the feeling of urinary urgency and suprapubic pressure you are experiencing is being caused by several telephone books sitting on your abdomen. Now imagine the stack of telephone books being removed 1 at a time, slowly they are removed, first one, then the second, third, fourth, and the fifth. As each telephone book is removed you feel less and less pressure. Finally, as the last telephone book is removed, your suprapubic area

is free of pressure. Now imagine you are still at your favorite beach, and it is getting even warmer. You are holding a large delicious vanilla flavored soft-serve ice cream cone. As you sit up eating the ice cream cone, it starts to drip onto the warm sand. As you see the vanilla ice cream drip onto the white sand, imagine, the cone dripping into your bladder, drip, drip, drip. As the ice cream drips into your bladder the drips coat the bladder wall with cool refreshing cream. Your bladder is now protected with the thick ice cream coating and is pain free . . . as you lay back onto your beach towel you rejoice in knowing your pain and urgency symptoms are gone. As you open your eyes . . . you are pleased to know that the beach is always going to be there . . . and you can go back as often as you like.

Acupressure

A block in the flow of energy in the bladder results in discomfort. Acupressure is a treatment that releases blocked energy and promotes energy flow. To release the blocked energy, the acupressure practitioner places finger pressure on acupuncture points. The pressure promotes energy flow to the bladder and alleviates the sense of urgency and pain that occurs with small amounts of urine in the bladder. Pressing on bladder meridians also reduces some of the inflammatory processes that occur in the bladder lining.²⁵

After locating the bladder acupoints, press down slowly to a level at which a certain resistance and a little pain is felt. Press harder during expiration, and relax pressure during inspiration. Repeat this process at each bladder median several times.

To access bladder meridian 1, press the first and second fingers into the inner corner of the lower portion of the eye socket. With eyes closed work around the lower portion of the eye socket from the inner canthus to the outer canthus of eye pressing 5 to 6 times with 1 long expiration.²⁵ Bladder meridians 4 and 5 are conveniently located at the temple hairline area and straight behind on the top of the head. To apply pressure to bladder meridian 10, place 1 hand on top of the other, behind the neck, and using the heel of the hand, apply pressure at the base of the skull. Bladder meridian 11 can be accessed further down the neck at the shoulder. The last acupoints to try if the pain, pressure, and urgency persist are the lumbar area bladder meridians 22, 23, 24, and 29 all located 1-thumb distance from either side of the lower lumbar spine. To apply acupressure to these bladder

meridians, stand up and bend over keeping the back of the legs straight. Bring arms behind the back, and place fists on the lower back on either side of the spine. On inhalation, relax the pressure on exhalation, and advance the pressure.²⁵

Reflexology

Reflexology breaks up blockages in the energy, circulation, and lymph systems allowing life energy to flow freely to all parts of the body. The reflex points are energy junctions that relay and reinforce energy along meridian lines of the body passing energy toward the organs and the nervous system. To clear the energy pathways of the bladder, perform reflexology on the soft spongy area next to the pad of the heel on the inside of the foot.²⁹ With the thumb, massage the spongy areas on both feet, pressing several times.

Meditation

Mediation quiets the mind and promotes healing. It is suggested that a form of ancient meditation called “Jappa” be used.³⁴ To use Jappa meditation, quiet the mind by getting into a quiet space in the mind called the “gap”. While in the gap, it is impossible to think about the symptoms of IC. Both an affirmation and a mantra will be used. The affirmation Hay^{35(p16)} suggests to counter bladder problems, “I comfortably and easily release the old and welcome the new,” makes a perfect affirmation to use while meditating. One mantra often used in Jappa mediation is the syllable “ah.” “Ah” is a universal sound in the word *God*, no matter what language or religion.

To do Jappa meditation, sit in a comfortable chair, feet flat on the ground, arms in lap, palms facing up, make a circle with thumbs and index fingers touching, close eyes, and take several deep breaths, focusing on exhalation. Now start slowly saying Hay’s affirmation 1 word at a time. First, say the word “I,” and visualize the word “I” on the blackboard in the center of your forehead. Now visualize the word “comfortably.” Now quickly jump back from the word “comfortably” into the black space between the words “I” and “comfortably.” This is the gap, experience it. While in the gap, utter a mantra. Now continue to repeat each word of Hay’s affirmation, 1 word at a time, going ahead to the next word of the affirmation, jumping back to the previous word, getting into the gap and repeating the mantra out loud.

CASE STUDY

The notes from this case study relate the experiences of 1 office nurse and 1 IC patient with their permission. A 59-year-old female patient sought the help of her internist for insomnia. Despite therapies of medications, diet restrictions, bladder washes, and distensions, her troubling symptoms of recurring pelvic pain, urgency, pressure, and the need to urinate 20 or more times a night continued. During the office visit, the internist prescribed a tranquilizer to help her sleep. He also provided some useful information on lifestyle changes such as elimination of caffeine, not “holding it,” and increasing intake of water to 6 to 8 glasses (8 oz) a day, and instructed the patient to make a follow-up appointment in 1 week.

After the doctor left the examination room, the patient complained to the office nurse, “I just wish there was something that could help. I am so tired of all of this.” At that point the nurse excused herself to consult with the internist, gaining approval to suggest holistic interventions to the patient. Returning to the patient, the nurse asked the patient whether she would be interested in learning some “holistic techniques” to help control symptoms, the patient agreed.

Following consent, the nurse excused herself taking a moment to center herself with the intention to heal. Returning to the examination room, the nurse initiated the “lived experience” interview. Noticeable relief of stress was observed as the patient expressed “it is good to tell someone about this who believes me.” The nurse instructed the patient to keep a journal of the events that would occur in the next couple of months as holistic therapies were tried. Next the nurse instructed the patient how to do PMR, guided imagery, acupuncture, reflexology, and meditation. She provided the patient with handouts and audiotapes of the interventions, which had appropriate therapeutic music background.

At the next office visit, the patient reported, “It’s the same every night. I wake up about 2 AM and have to urinate. I get up, go back to bed, and in about 10 minutes up again, then back to bed, the urgency gets worse, continues, with its burning, pressure, getting up every five minutes for about two hours. When that happens, I realize that once again I am in the cycle of the IC condition. Over this past week I decided to try the ideas you provided. Since I was half asleep, the easiest one for me to do was the eye socket and hairline acupuncture. I lay back on the pillow and did the technique as you instructed, pressing my fingers

from the center of the lower eye socket to the outer. While I noticed some relief, I had to soon 'go' again so I decided to listen to the guided imagery script of the beach using the audioteape you provided. As I listened to your comforting voice and the sound of the waves, I imagined the vanilla soft serve ice cream dripping into my bladder and I actually felt some relief and fell asleep for a while. It was about an hour before I awoke again. This time after returning to bed, I tried the reflexology, pressing the soft spongy tissue inside both heels. I guess it worked as the next time I awoke it was 7 AM. In the evening of the second day I recorded these events and my feelings in my journal. On the second night, it was the same old thing, up at 2 AM with pressure and urgency. After returning to bed I thought I would use ankle reflexology first since it was so effective the night before, but only experienced a little relief. This time, I tried progressive muscle relaxation using your tape. Although I enjoyed the classical music background, it was harder to do than the imagery, as it took a lot of concentration. I think I was up another five times to the bathroom, but finally got to sleep. The next day I thought I should try one of the interventions before I went to sleep so I put on the meditation tape. It was easy to do Jappa meditation with your voice coaching me. I dozed off and slept until 4 AM; after I woke up and urinated, I tried the eye socket adding hairline reflexology. This technique stopped the pain and urgency for another 2 hours and by then it was time to get up. I think a combination of them is effective. As the nights go on, I use a variety of them in different sequences. At least I feel that in some way I am taking control of my condition now."

CONCLUSION

Additional research needs to be conducted to determine the effectiveness of the suggested holistic intervention protocol in a larger population. This case study provides only anecdotal evidence but shows promise in the effectiveness of holistic interventions to relieve the symptoms of IC. In the case study, the holistic interventions of PMR and meditation prevented the escalation of IC symptoms and prevented the reaction to the stress of IC from penetrating the system. The secondary prevention interventions of acupressure and reflexology acted to reduce symptoms by unblocking and balancing energy channels, thus normalizing the central core. The lived experience interview and journaling

supported existing strengths and maintained system stability.

It is evident that a combination of conventional and holistic therapies is most beneficial for reducing the irritating symptoms the IC patient endures. A knowledgeable nurse can employ the holistic intervention protocol and support the IC patient through this process.

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